Preliminary PK – 3 ECE Specialist Instruction Credential
Standard 8 (Mathematics) Evidence Guidance

The purpose of this document is to assist prospective PK3-ECE Specialist Instruction programs in responding to Program Standard 8: Effective Mathematics Instruction in PK-3 Settings. In the following table, the standard is divided into sections to ensure that prospective programs address each aspect of the standard. In responding to this standard, please include the following:

- *A list of all courses in which mathematics pedagogy is a primary focus in your program. Please provide a list of other courses in which mathematics pedagogy is covered but is not necessarily the primary focus so that reviewers have the entire picture of math instruction in your program.*

For each of the items listed below, where requested, please provide:

- *Evidence from authentic sources such as examples of assignments and assessments, identified program policies, excerpts from handbooks, examples of instructional materials, documentation, and/or reflections.*
- *A direct link to the specific location of the evidence (i.e.: page or section).*
- *A brief narrative (150-250 words each) providing context for how the linked evidence addresses the relevant portion of the standard.*

Program Standard 8: Effective Mathematics Instruction	Evidence Guidance
The credential program's coursework and supervised field experiences include the study of effective means of teaching mathematics to young children, consistent with the State Board adopted K-3 Mathematics Standards and Framework and the *Preschool Learning Foundations* and *Curriculum Framework*. Coursework and supervised field experiences prepare teachers to model mathematical thinking, inquiry, practice, and processes in their classrooms and to engage in mathematics teaching and learning in a mutually respectful manner with students[1].	Please provide a brief narrative explaining how the program's coursework and clinical practice will prepare teachers with effective means of teaching mathematics that is consistent with all state adopted curricular materials for preschool through 3rd grade. Provide syllabi and other available evidence (required course readings and assignments if not identified in course syllabi) that demonstrate how the program's coursework and clinical practice will prepare candidates to model mathematical thinking, inquiry, practice, and processes in their classrooms.

[1] Portions of the standard will be addressed in a later section.

Program Standard 8: Effective Mathematics Instruction	Evidence Guidance
Coursework and supervised field experiences prepare candidates to draw on and extend children's prior mathematical knowledge, understandings, and capabilities. The program prepares candidates to build positive relationships with children that help candidates understand children's mathematical understandings and provide appropriate learning activities and experiences that build on children's developing mathematical capabilities[2]. The program prepares candidates to use their knowledge of individual children to meet them where they are developmentally and provide the support needed to sustain their progress.	Provide evidence from both coursework **and** clinical practice that illustrate how candidates are prepared to understand, draw on, and extend children's prior mathematical knowledge, understandings, and capabilities and meet them where they are developmentally and provide the support needed to sustain their progress.
Through coursework and supervised field experiences programs stress the goal of building children's conceptual understanding so that children develop a strong foundation for later math learning. Candidates learn to engage children in activities that encourage students to use a range of tools and strategies to solve problems, including working in pairs or small groups. The program teaches candidates to relate mathematics to children's interests and everyday life and embed math learning opportunities in daily activities. Candidates learn how to differentiate instruction and learning activities to meet individual children's learning needs.	Please provide a brief narrative explaining how the program's coursework and clinical practice stress the goal of building children's conceptual understanding so that children develop a strong foundation for later math learning. Provide evidence from both coursework **and** clinical practice that demonstrate how candidates learn to: • Engage children in activities that encourage students to use a range of tools and strategies to solve problems, including working in pairs or small groups; • Relate mathematics to children's interests and everyday life; and • Differentiate instruction and learning activities to meet individual children's learning needs.

[2] Portions of the standard will be addressed in a later section.

Program Standard 8: Effective Mathematics Instruction	Evidence Guidance
Candidates learn to provide learning activities and opportunities for children to figure out different ways to solve problems on their own or with classmates, and to explain or show how they arrived at their solution to the problem. Programs emphasize the importance of observing, listening, and reflecting on children's mathematical thinking and discourse and asking questions, posing new learning activities and opportunities and providing a variety of tools to further surface and build on children's mathematical thinking. Candidates learn to ask children questions to elicit children's thinking and problem-solving processes as they engage in math activities.	Please provide a brief narrative explaining how the program emphasizes the importance of: • Observing, listening, and reflecting on children's mathematical thinking and discourse and asking questions; and • Providing a variety of tools to further surface and build on children's mathematical thinking. Provide evidence from both coursework **and** clinical practice that demonstrate how candidates learn to support children in their efforts to figure out different ways to solve problems on their own or with classmates, and to explain or show how they arrived at their solution to the problems.

Program Standard 8: Effective Mathematics Instruction	Evidence Guidance
Coursework and supervised field experiences prepare teachers to facilitate children's learning in all of the critical strands of mathematics in the areas of 1) number and operations, including counting and cardinality, 2) mathematical thinking and understanding relationships, 3) algebra and functions, 4) measurement and data analysis, and 5) geometry. For all strands and across all grade levels PK-3 (Appendix D), the program provides teachers with effective ways to both engage children in *thinking* about mathematics while they *do* mathematics, and help children develop confidence in their mathematical skills. The program assists teachers to learn to help children develop increasingly complex mathematical understandings and skills consistent with the progression of the mathematics strands identified in the K-3 Mathematics Standards and Framework and the *Preschool Learning Foundations* and *Curriculum Framework*.	Please provide a brief narrative explaining how the program's coursework and clinical practice prepare teachers to facilitate children's learning in all of the critical strands of mathematics and provides them with effective ways to both engage children in *thinking* about mathematics while they *do* mathematics, and help children develop confidence in their mathematical skills. Provide evidence from both coursework **and** clinical practice that demonstrate how candidates learn to help children develop increasingly complex mathematical understandings and skills, consistent with the progression of the mathematics strands identified in state adopted curricular materials for preschool through 3rd grade in the areas of: 1) Number and operations, including counting and cardinality, 2) Mathematical thinking and understanding relationships, 3) Algebra and functions, 4) Measurement and data analysis, and 5) Geometry.
Through coursework and supervised field experiences, candidates learn that deep mathematical thinking and learning occurs and is supported through promoting multiple modes of communication about mathematics, including language, gestures, movement, use of a variety of tools, writing, art, and other modalities, thereby allowing all children, including English learners and children with disabilities, opportunities to express their mathematical development in meaningful and comprehensible ways.	Provide evidence from both coursework **and** clinical practice that demonstrate how candidates learn to facilitate the deep mathematical thinking and learning that occurs and is supported through developing and promoting their own and the children's use of multiple modes of communication about mathematics.

Program Standard 8: Effective Mathematics Instruction	Evidence Guidance
The program prepares candidates to build positive relationships with children that help candidates understand children's mathematical understandings and engage in mathematics teaching and learning in a mutually respectful manner with students.[3]	Please provide a brief narrative, including evidence from both coursework and clinical practice, that describes how the program prepares candidates to build positive relationships with children and engage in mathematics teaching and learning in a mutually respectful manner.

[3] These candidate competencies were taken from other sections within this standard.